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Date: August 11, 2005

Route To:

Subject: Western Tent Caterpillar Defoliation at the Canjilon Lakes Recreation Area

To: Travis Moseley, District Ranger, Canjilon Ranger District

This letter summarizes the observations and discussions Debra Allen-Reid, New Mexico Zone Leader, Forest Health, and I had with you and Ray Martinez on July 27, 2005 as we viewed aspens defoliated by the western tent caterpillar, *Malacosoma californicum* at the Lower and Middle Canjilon Lakes Campgrounds. Ray was concerned that the western tent caterpillar defoliation occurring in these campgrounds would cause extensive aspen mortality since they were completely defoliated in 2004 and 2005. Aerial surveys conducted by Richard Norris of our staff on July 22, 2004 and July 21, 2005 over the Canjilon Lakes Recreation Area did show the aspens were heavily defoliated (Figure 1.).

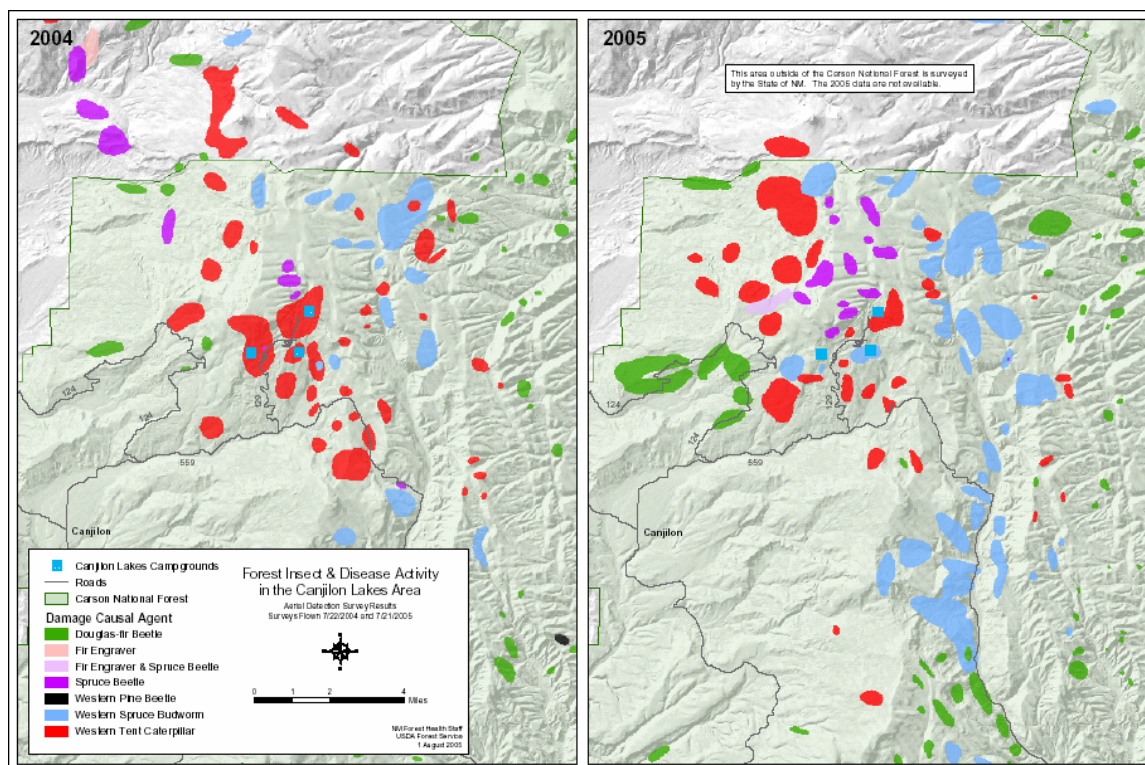


Figure1. Forest Insect and Disease Activity in the Canjilon Lakes Area, 2004 and 2005.

Our observations at the Lower and Middle Canjilon Lakes Campgrounds indicated that the aspens had re-foliated and that western tent caterpillar damages were minor consisting of limited branch dieback. Enclosed is a brochure titled "Western Tent Caterpillar in Aspen". This brochure provides information on: the life cycle and habits of the western tent caterpillar, tree



damage and natural agents controlling population outbreaks. As stated in the brochure, western tent caterpillars are usually present in low numbers, however, occasionally climate and feeding conditions are just right and populations build rapidly to outbreak proportions. When this happens, whole hillsides of aspens can be completely defoliated. All though the defoliation and tents produced by these caterpillars are unsightly, and caterpillars are a nuisance because of their size and numbers, control is not usually recommended because lasting tree damages rarely occur. Outbreaks of the western tent caterpillar usually last for three to four years, then collapse from natural causes. Populations of naturally occurring insect enemies, such as small wasps that parasitized the eggs and caterpillars, are able to build up to levels that suppress the outbreak. Sometimes infestations are controlled by a naturally occurring virus that only affects this insect.

Aspen mortality and tree failures occurring at the Lower and Middle Canjilon Lakes Campgrounds are primarily due to a combination of advanced age, stem cankers, trunk rots, stem decays, and root rotting fungi. In 1990, I conducted an evaluation and wrote a report titled "Biological Evaluation of Pest Conditions and Potential Hazard Trees Occurring within the Canjilon Lakes Recreation Area" (see attached report R-3 90-6). Even at that time, aspen mortality was abundant and widespread throughout the aspen stands comprising the Canjilon Lakes Recreation Area. Most of the aspen mortality, then as now, resulted from canker infections (see enclosed brochure "Identification of Aspen Cankers". Because aspens have a soft, thin, living bark, they are easily wounded. These wounds are highly susceptible to canker infections which can cause tree mortality within four to five years after initial infection. Dead and disease weakened aspens located near camp sites, parking pads campground loops, and permanent structures are potentially hazardous and should be removed as soon as possible. We commend Rays' dedication, interest, and concern in removing these hazardous trees in a timely manner.

During our recent visit, we observed that defoliation caused by the western spruce budworm, *Choristoneura occidentalis*, was widespread throughout the mixed conifer around and within the Canjilon Lakes Recreation Area. Unlike the western tent caterpillars which can completely defoliate their host trees, the western spruce budworm only feeds on the current year's needle growth. After 4 to 5 years of sustained attack, infested trees are often entirely defoliated and some trees may begin to die. Top-kill is more common than entire tree mortality. The enclosed Forest Insect & Disease Leaflet 53, "Western Spruce Budworm" provides information on this insect's life history, host trees, damage, natural regulating factors, and management.

Management alternatives and recommendations for the Canjilon Lakes Recreation Area remain basically unchanged from those listed and discussed in detail in the enclosed R3 90-6 Report. Management alternatives included:

1. Do nothing (probably no longer an option due to the rise in tree failures)
2. Removal of the hazard trees
3. Removal of the hazard trees targets
4. Species conversion (planting 5-10 Foot conifers into undesirable openings)
5. Interpretive signing
6. Closing camp sites or loops where hazardous conditions can't be mitigated
7. A combination of alternatives 2,3,4, and 5

We recommend the following: (some of which was proposed in the 1990 report)

1. An Interdisciplinary Team with a silviculturist and landscape architect be charged with developing a long term, site specific vegetation management plan designed to promote a succession of vegetation that reduces the incidence of insect and disease and hazard tree development. Because of the anticipated fate of the aspen in these campgrounds, this plan should consider favoring a more durable species than aspen (mixed conifer) if maintenance of tree cover is important in the long run. Some interest was also expressed in the possibility of regenerating aspen in openings in and around the Canjilon Lakes Recreation Area to maintain the aspen character of the site, away from potential targets. Enclosed is a copy Research Paper RM-RP-324 discussing the "Response of Aspen Root Suckering to Regeneration Methods and Post-Harvest Protection".
2. All high risk hazard trees be removed from these recreation sites as soon as possible; and that annual inspections be made in the spring prior to opening the sites to identify and remove all existing hazards. These sites should be re-inspected after severe wind events and storms to ensure all hazards created are removed
3. Interpretive signs should be erected to educate site users on the detrimental effects of tree injury.

If you have any questions please give me a call at (505) 842-3287 or e-mail me at trogers@fs.fed.us.

/s/ Terrence J. Rogers
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Zone

Enclosures: 6

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